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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,172	03/31/2004	Oswald Kuwert	BOE01 052	4481

7590 11/29/2006  
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EXAMINER	
LE, DANG D	
ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/813,172

Applicant(s)

KUWERT ET AL.

Examiner

Dang D. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 September 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6,8-10 and 12-14 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-6,8-10 and 12-14 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the stopper in claim 2 and the interacting of the stopper with the linear guide in claim 12 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4-6, 10, 12, and 13 and are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (6,049,151).

Regarding claim 1, Suzuki et al. shows an electric motor for a linear drive system comprising a motor housing (20) within which a stator (13), a rotor (6) and a threaded shank (4) are accommodated, the stator having a stator core (16) and plurality of phase windings (14) each connected to one of a plurality of phase connectors, the rotor being mounted onto a rotor hub, the rotor hub being (6) supported in the motor housing by at least one roller bearing (9, 10) and coupled to the threaded shank (2 versus 7) to transform the rotation of the rotor into a translational motion of the threaded shank (up or down in Figure 2), wherein the motor housing includes an injection molded part within which the stator, together with the stator core and the phase windings, are fully embedded; and wherein a linear guide (21) is integrated with the injection molded part of the motor housing, the linear guide configured to accommodate and guide the threaded shank.

Regarding claim 2, Suzuki et al. also shows a stopper (flat part of hole 21) for positioning the threaded shank, the stopper being integrated into the injection molded part of the motor housing.

Regarding claim 4, Suzuki et al. also shows the threaded shank having an outer thread (7) and the rotor hub has an inner thread (2) which interacts with each other.

Regarding claim 5, Suzuki et al. also shows the rotor hub including an injection molded part (6) within which the rotor is embedded.

Regarding claim 6, Suzuki et al. also shows bearing supports for the roller bearings being integrated into the injection molded part of the motor housing (Figure 2).

Regarding claim 10, Suzuki et al. also shows the electric motor being a hybrid stepping motor.

Regarding claim 12, Suzuki et al. also shows the stopper (flat part) interacting with linear guide (hole 21).

Regarding claim 13, Suzuki et al. also shows a motor flange (12) being molded onto the injection molded part of the motor housing.

5. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohta et al. (6,157,103).

Regarding claim 1, Ohta et al. shows an electric motor for a linear drive system comprising a motor housing (3) within which a stator (7a, 7b), a rotor (46, 72) and a threaded shank (43) are accommodated, the stator having a stator core and plurality of phase windings each connected to one of a plurality of phase connectors, the rotor being mounted onto a rotor hub, the rotor hub being (46) supported in the motor

housing by at least one roller bearing (50) and coupled to the threaded shank to transform the rotation of the rotor into a translational motion of the threaded shank, wherein the motor housing includes an injection molded part within which the stator, together with the stator core and the phase windings, are fully embedded (Figure 9); and wherein a linear guide (59) is integrated with the injection molded part of the motor housing, the linear guide configured to accommodate and guide the threaded shank.

Regarding claim 2, Ohta et al. also shows a stopper (54) for positioning the threaded shank, the stopper being integrated into the injection molded part of the motor housing.

Regarding claim 3, Ohta et al. also shows the phase connectors (Figure 9) being embedded in the injection molded part of the motor housing.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta et al. in view of Palmero (3,621,312).

Regarding claim 8, Ohta et al. shows all of the limitations of the claimed invention except for the rotor having two pole plates which are separated by a permanent magnet, the pole plates and the permanent magnet being held and positioned in the injection molded part of the rotor hub.

Palmero shows besides the rotor with circumferential positioned magnet (Figure 5), the rotor having two pole plates (Figure 1) which are separated by a permanent magnet, the pole plates and the permanent magnet being held and positioned in the injection molded part of the rotor hub for the purpose of reducing stray field loss.

Since Ohta et al. and Palmero are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the rotor with two pole plates which are separated by a permanent magnet, the pole plates and the permanent magnet being held and positioned in the injection molded part of the rotor hub as taught by Palmero for the purpose discussed above.

Regarding claim 14, Ohta et al. also shows the electric motor being a hybrid stepping motor.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta et al. in view of Palmero and further in view of Akagi (4,742,989).

Regarding claim 9, the motor of Ohta et al. modified by Palmero includes all of the limitations of the claimed invention except for a plurality of bearing supports for the roller bearings being integrated into the injection molded part of the rotor hub. Ohta et al. shows only one bearing.

Akagi shows many bearings for the purpose of reducing friction.

Since Ohta et al., Palmero, and Akagi are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use many bearings as taught by Akagi for the purpose discussed above.

***Information on How to Contact USPTO***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D. Le whose telephone number is (571) 272-2027. The examiner can normally be reached on Monday through Friday.

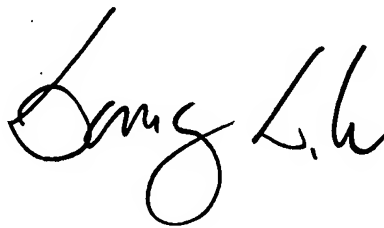
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

11/19/06

A handwritten signature in black ink, appearing to read 'Dang Le', with a stylized, cursive script.

DANG LE  
PRIMARY EXAMINER